AUV Dive Summary, EX-23-08, Dive 01, October 26, 2023

General Location Map

Dive Information

Site Name	Santa Lucia Bank
General Area Descriptor	Santa Lucia Bank, Central California Coast, Pacific Ocean
Science Team Leads	Leonardo Macelloni and Marco D'Emidio
Expedition Coordinator	Sam Cuellar

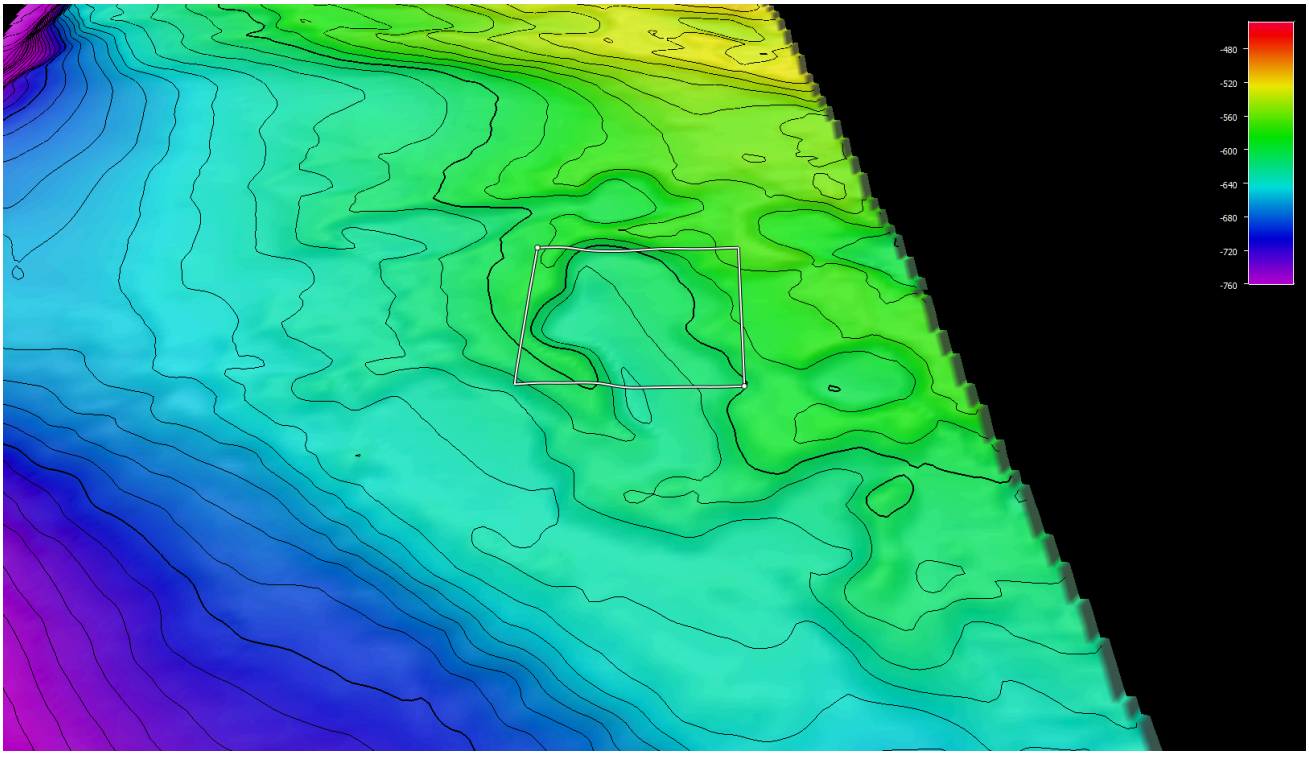
AUV Supervisor/ Operating Organization	Max Woolsey, University of Southern Mississippi
Mapping Lead(s)	Dan Freitas and Anna Coulson
Dive Purpose	AUV Dive to collect VOYIS system imagery on previously identified hard substrate detected by AUV multibeam data.
Was the dive restricted for Underwater Cultural Heritage?	No
Standard AUV Dive Summary Data	Start time [UTC]: 16:26:30 Start Location: 34.7279, -121.3984 End time [UTC]: 18:29:30 Dive duration: 2 hours 3 minutes Distance traveled: 5m Depths surveyed: -609m

Dive Description	This first deployment and recovery of Mola Mola (MM) was performed expertly by the deck and bridge stations, with help from good sea conditions. Several hundred images were collected while MM hovered three meters off the seafloor. Navigation quality diminished partway through the descent when the Phins ceased accepting positions from the USBL tracking system. Early in the dive, these inputs did stabilize the Phins positioning, and the Sonardyne system otherwise had exceptional performance throughout the operation – in regards to both tracking and acoustic communications. When the vehicle arrived at the target altitude, it failed to step to the next mission task. This behavior was due to the mission system being inadvertently shut down when the terminal shell in which it was running was disconnected. The process for launching a mission has been revised. Although the vehicle continued to serve as an imaging platform despite these issues, an intermittent water detection alarm caused a mission abort and subsequent recovery. The cause of this alarm should be investigated on Oct 27 during a housing inspection.
Notable Observations	Multiple types of biological life were seen in the brief visit to the bottom, including a variety of fishes (likely California Halibut and Vermillion Rockfish)

Equipment Deployed

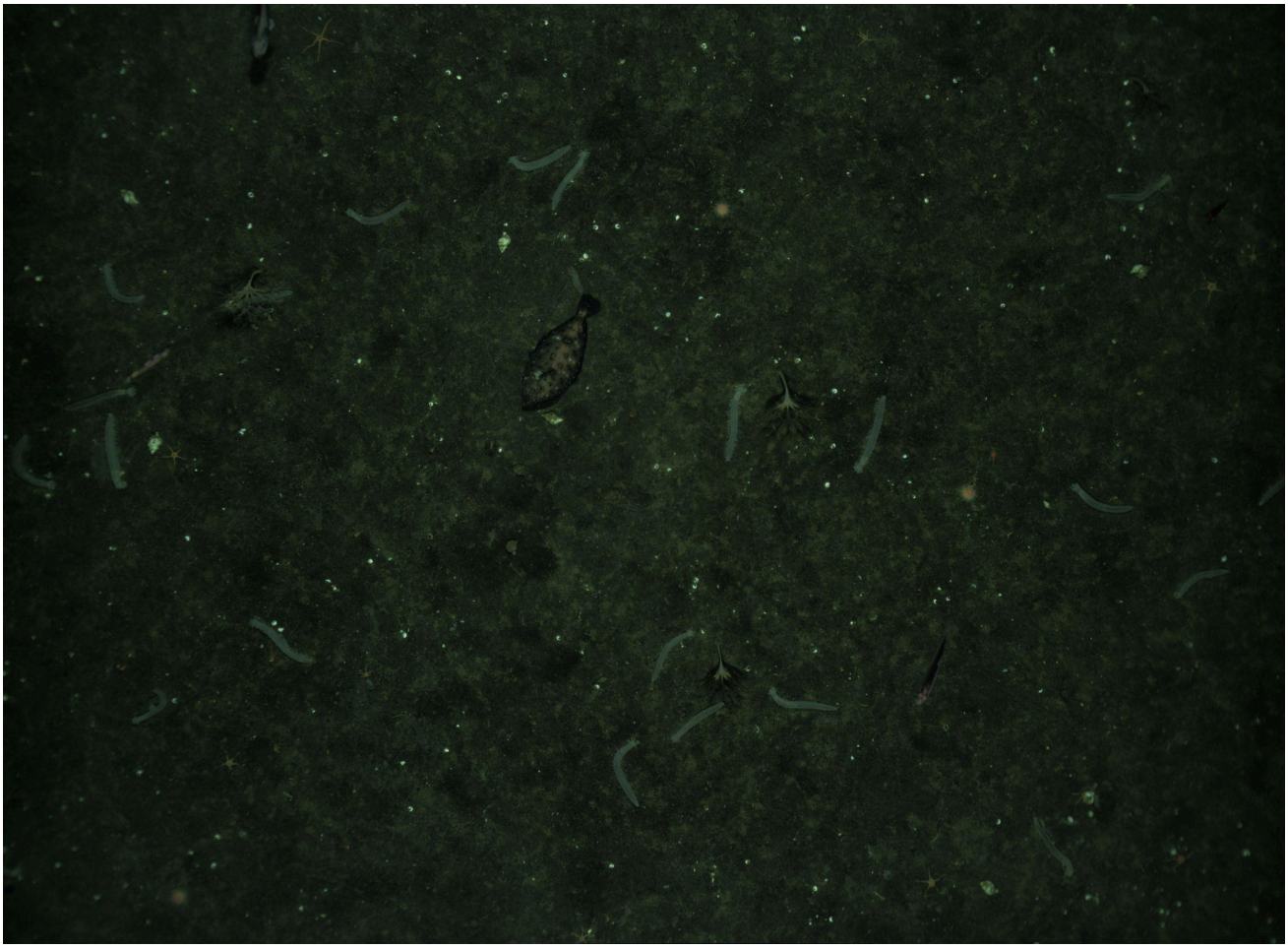
AUV	*Mola Mola*
AUV Equipment Payload	VOYIS Imaging System that includes still imagery and laser xyz data.
Equipment Malfunctions	Phins INS began refusing USBL updates causing vehicle navigational drift. An intermittent water detection alarm Failure to step to the next mission task when reaching the bottom
Data Types Collected	Still imagery and laser

Overview Map of Main Dive Site

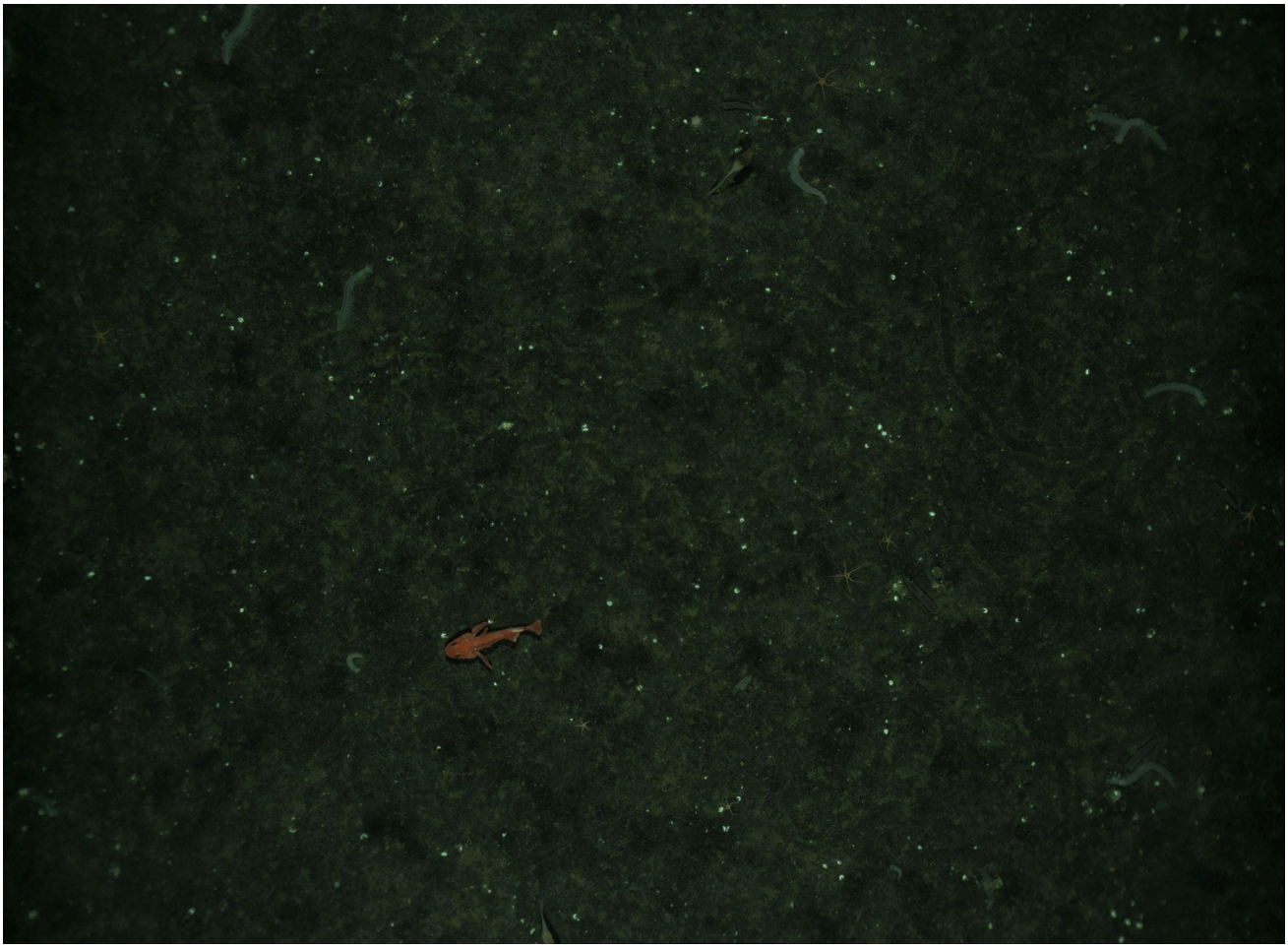


Map representative of area and survey conducted by Mola Mola. Background sourced from Okeanos Explorer multibeam data from EX2308 with contours at 10m

Representative Photos of the Dive



Mola Mola VOYIS image from initial arrival on bottom with multiple organisms visible.



Mola Mola VOYIS image.

Scientists Involved (provide name, email, affiliation)

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